Safety Data Sheet

S-5100 Part A

Section 1. Identification

Product Identifier	S-5100 Part A
Synonyms	N/A
Manufacturer Stock Numbers	N/A
Recommended use	N/A
Uses advised against	N/A

Manufacturer Contact

Address

Summitville Tiles, Inc
PO BOX 73
Summitville , OHIO, 43962
USA

Phone	Emergency Phone	Fax
(330) 223-1511	(800) 424-9300 CHEMTREC	(330) 223-1414

Email

info@summitville.com

Section 2. Hazards Identification

Classification

HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 2
SENSITIZATION - SKIN - Category 1
SKIN CORROSION/IRRITATION - Category 2

Signal Word

Warning

Pictogram

Hazard Statements

Causes skin irritation
May cause an allergic skin reaction
Toxic to aquatic life

Precautionary Statements

Response	If on skin: Wash with plenty of soap and water, warm water helps in removal of resin. Remove all residues from skin. Gelled citrus cleaner may be beneficial. Wipe all cleaners completely off skin to dry. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse.
Prevention	Avoid breathing dust/fume/gas/mist/ vapors/spray. Avoid release to the environment Contaminated work clothing must not be allowed out of the workplace. Wash all exposed skin and clothing thoroughly after handling. Wear protective gloves.
Storage	N/A
Disposal	Dispose of contents/container in accordance with all local, regional, national, international regulations within jurisdiction of product usage.

Ingredients of unknown toxicity	0%
Hazards not Otherwise Classified	No additional information provided.

Section 3. Ingredients

CAS	Ingredient Name	Weight %
50-00-0	Formaldehyde	0.0005% - 0.005%
106-89-8	Oxirane, (chloromethyl)-	0.001% - 0.005%
	Polyetherpolysiloxane	0.005% - 0.9%
	Dipropylene Glycol Monobutyl Ether	0.05% - 5%
67762-90-7	Siloxanes and Silicones, di-Me, reaction products with silica	1% - 5%
30499-70-8	1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane	10% - 15%
28064-14-4	Phenol, polymer with formaldehyde, glycidyl ether	45% - 50%

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

General	If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area and remove contamination from individual safely. See a physician/get medical attention.
Eye	Immediately flush eyes with plenty of water while holding eyelids apart to ensure complete irrigation. If irritation persists, or for imbedded foreign material(s), get immediate medical attention.
Skin	Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
Inhalation	Remove to fresh air if breathing is difficult and provide oxygen. Consult a physician if effects occur..
Ingestion	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Important Symptoms	Most important symptoms and effects, both acute and delayed: Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact. See

section 11 for additional information.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	NFPA Class IIIB (Combustible liquid): Use water spray, ABC dry chemical, foam or carbon dioxide. Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures.
Unsuitable Extinguishing Media	None known
Flammable Properties	Can burn in fire, releasing toxic vapors.
Fire fighting instructions	Containers can build up pressure if exposed to heat (fire).
Special exposure hazards	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk without suitable training.
Fire fighting instructions	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6. Accidental Release Measures

	Take precautions as necessary to prevent contamination of ground and surface waters. Dike area to contain spill.
Clean-up	Wear a self-contained breathing apparatus and appropriate Personal protection. (See Exposure Controls/Personal Protection section.) Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Section 7. Handling and Storage

Handling	Eating, drinking, and smoking should be prohibited in areas where material is handled, stored, and processed. Remove contaminated clothing and protective equipment before entering eating areas. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of. Do not get on skin and clothing.
Storage	Store in original container protected from direct sunlight in a dry, cool, and well ventilated area, away from incompatible materials and food and drink.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits

Ingredient Name	ACGIH TLV	OSHA PEL	STEL
Formaldehyde	N/A	N/A	N/A
Oxirane, (chloromethyl)-	N/A	N/A	N/A
Polyetherpolysiloxane	N/A	N/A	N/A
Dipropylene Glycol Monobutyl Ether	N/A	N/A	N/A
Siloxanes and Silicones, di-Me, reaction products with silica	N/A	N/A	N/A
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-, polymer with (chloromethyl)oxirane	N/A	N/A	N/A

	Phenol, polymer with formaldehyde, glycidyl ether	N/A	N/A	N/A

Personal Protective Equipment	Goggles, Gloves, Respirator, CHEMICAL GOGGLES, SYNTHETIC APRON
Engineering controls	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product.

Section 9. Physical and Chemical Properties

Physical State	Viscous Liquid
Color	Clear, Pale yellow
Odor	slightly aromatic
Odor Threshold	Not Available
Solubility	Negligible
Partition coefficient Water/n-octanol	Not Available
VOC%	N/A
Viscosity	340,000 cps
Specific Gravity	1
Density lbs/Gal	N/A
Pounds per Cubic Foot	N/A
Flash Point	> 200 deg C/ >392 F
FP Method	Setaflash (closed tester)
Ph	7-9
Melting Point	Not Available
Boiling Point	> 200 deg C/ >392 deg F
Boiling Range	> 200 deg C/ >392 F
LEL	N/A
UEL	N/A
Evaporation Rate	Not Available
Flammability	Not Available
Decomposition Temperature	Not Available
Auto-ignition Temperature	Not Available
Vapor Pressure	Not Available
Vapor Density	Not Available

Section 10. Stability and Reactivity

Stability	Stable at normal temperature and pressure.
Reactivity	Exothermic reactions including polymerization may occur in contact with amines, strong acids, strong bases, alcohols, strong oxidizing agents, peroxides and other radical forming agents, and excessive heat.
Hazardous Polymerization	Hazardous polymerization may occur. This product may autopolymerize at very high temperatures.
Conditions to avoid	Storage at elevated temperatures. Avoid contact with strong acids, strong bases, & strong oxidizing agents

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Hazardous decomposition products	Thermal decomposition may produce smoke (possibly toxic), carbon monoxide, carbon dioxide, nitrogen oxides, aldehydes and other products of incomplete combustion. Phenolics.

Section 11. Toxicological Information

General	Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure.
Eye	Causes eye irritation.
Skin	Irritant to skin and mucous membranes. Prolonged contact with this product can cause reddening, swelling, rash, scaling, or blistering. In those who have developed skin sensitization, these symptoms can develop as a result of contact with a very small amount of the liquid material.
Inhalation	High gas, vapor, mist, or dust concentrations may be harmful if inhaled.

Section 12. Ecological Information

Aquatic ecotoxicity	This product contains materials that are harmful to the environment.
Persistence and degradability	This product is partially biodegradable. Significant residuals remain. Some constituents are inorganic.
Bioaccumulative potential	No further relevant information provided/available.
Mobility in soil	No further relevant information provided/available.
Other ecological notes	Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water. Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms.

Section 13. Disposal

Resin Waste	Must not be disposed together with household garbage. Do not allow product to reach sewage system. Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to all the applicable regulations. For waste disposal purposes, this product is not known to be defined or designated as hazardous by current provisions of the Federal (EPA) Resource Conservation and Recovery Act (RCRA, 40CFR261). Incinerate waste product when in liquid form (i.e., as supplied) in a properly permitted (approved) incineration facility in accordance with federal, state and local regulations. Liquids cannot be disposed of in a landfill. Federal, state and local regulations where the waste material is generated, treated, and/or disposed of must be examined to verify the appropriate waste classification.

Section 14. Transport Information

UN Number	3082
UN Proper Shipping Name	Environmentally Hazardous Substance, Liquid, N.O.S. (Epoxy phenol novolac resin)
DOT Classification	9 Miscellaneous dangerous substances and articles.
Packing Group	III

Section 15. Regulatory Information

California Prop 65	This product contains the following listed substances known to the State of California to cause cancer, birth defects or other reproductive harm.
trace quantities	The following materials are present in trace amounts.
Formaldehyde	50-00-0, Formaldehyde, less than 0.005%
1-chloro-2,3-epoxypropane	106-89-8, 1-chloro-2,3-epoxypropane, less than 0.005%
USA (CERCLA)	Not applicable.
SARA 313	No ingredients listed.

Section 16. Other Information

Revision Date 10/6/2015

While the information and recommendations in this publication are to the best of our knowledge, information and believed to be accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.
IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.
THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.
Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

Safety Data Sheet

S-5100 Part B

Section 1. Identification

Product Identifier	S-5100 Part B
Synonyms	N/A
Manufacturer Stock Numbers	N/A
Recommended use	For industrial use only. Coatings, adhesives, composite, industrial applications Hardener for coating systems
Uses advised against	Not recommended as food or cosmetic additive.

Manufacturer Contact

Address

Summitville Tiles, Inc
PO BOX 73
Summitville, OHIO, 43962
USA

Phone	Emergency Phone	Fax
(330) 223-1511	(800) 424-9300 CHEMTREC	(330) 223-1414

Email

info@summitville.com

Section 2. Hazards Identification

Classification

EYE DAMAGE/IRRITATION - Category 1
FLAMMABLE LIQUIDS - Category 4
HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 2
HAZARDOUS TO THE AQUATIC ENVIRONMENT - LONG-TERM HAZARD - Category 1
SENSITIZATION - SKIN - Category 1
SKIN CORROSION/IRRITATION - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure) - Category 2

TOXIC TO REPRODUCTION - Category 1B
TOXIC TO REPRODUCTION - Category 2

Signal Word Danger

Pictogram

Hazard Statements

Causes serious eye damage
Causes serious eye irritation
Causes severe skin burns and eye damage
Combustible liquid
Harmful if inhaled
Harmful if swallowed
May cause an allergic skin reaction
May cause damage to organs Animal testing only, see section 11. Material supplier listed route(s) of exposure as not determined. Respiratory tract and brain listed as target organs.
May damage fertility or the unborn child. Animal testing only, see section 11. Material supplier listed route(s) of exposure as not determined.
Suspected of damaging fertility or the unborn child. Animal testing only, see section 11. Material supplier listed route(s) of exposure as not determined.
Toxic to aquatic life
Very toxic to aquatic life with long lasting effects

Precautionary Statements

Response

Collect spillage
Get medical advice/attention if you feel unwell.
If exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If on skin: Wash with plenty of soap and water. If irritation persists, contact a physician or poision control center.
If skin irritation or rash occurs: Get medical advice/attention.
If swallowed: Call a poison center/doctor/ physician / if you feel unwell.
If swallowed: Rinse mouth. Do NOT induce vomiting.
Immediately call a poison center/doctor/ if inhaled, swallowed, on skin, or in eyes,
In case of fire: Use dry chemical, carbon dioxide (CO2), or alcohol resistant foam to extinguish. Do not use water jet as it will spread the material.
Rinse mouth.
Specific treatment (see SDS section 4)
Wash contaminated clothing before reuse.

Prevention

Avoid release to the environment. Plug leaks and collect spillage if this can be done safely and without additional exposure. Prevent runoff into soil, sewers, and waterways. See section 6.
Contaminated work clothing must not be allowed out of the workplace.
Do not breathe dust/fume/gas/mist/vapors/spray.
Do not eat, drink or smoke when using this product.

	Do not handle until all safety precautions have been read and understood. Keep away from heat. Obtain special instructions before use. Use only outdoors or in a well-ventilated area. Wash skin thoroughly with soap and water after handling. Wear protective gloves >8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL) /eye protection/face protection
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container to an approved waste disposal facility.

Ingredients of unknown toxicity	0%
Hazards not Otherwise Classified	
	Benzyl alcohol may form explosive peroxides.

Section 3. Ingredients

CAS	Ingredient Name	Weight %
	polydimethylsiloxane copolymer	0.1% - 5.1%
	fatty acid ester	0.1% - 5.1%
109-55-7	1,3-Propanediamine, N,N-dimethyl-	0.2% - 5%
69-72-7	Benzoic acid, 2-hydroxy-	0.2% - 5%
124-09-4	1,6-Hexanediamine	0.2% - 5%
2855-13-2	Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-	1% - 5%
1477-55-0	1,3-Benzenedimethanamine	1% - 5%
80-05-7	Phenol, 4,4'-(1-methylethylidene)bis-	1% - 5%
694-83-7	1,2-Cyclohexanediamine	1% - 6%
186321-96-0	Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	15% - 20%
	aliphatic amines	3% - 7%
90-72-2	Phenol, 2,4,6-tris[(dimethylamino)methyl]-	4% - 9%
100-51-6	Benzenemethanol	40% - 45%
694-83-7	1,2-Cyclohexanediamine	7% - 12%
111-40-0	1,2-Ethanediamine, N-(2-aminoethyl)-	7% - 12%

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

Eye contact:	Get medical attention immediately. Call a poison control center or physician.

	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse with clean water for at least 10 minutes. Chemical burns must be treated promptly by a physician.
Inhalation	Rescuers should put on appropriate protective gear. Remove from area of exposure. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep victim warm. Get immediate medical attention. It may be dangerous to the person providing aid to provide direct mouth-to-mouth resuscitation. A one-way valve resuscitation mask is recommended to help protect the resuscitator. If unconscious, place in a recovery position and get medical attention immediately. Maintain an open airway on the victim. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Thoroughly wash (or discard) clothing and shoes before reuse. Chemical burns must be treated promptly by a physician.
Ingestion	Call a poison control center or physician. Get immediate medical attention. Do not induce vomiting unless directed to do so by poision control center or medical personnel. Never give anything by mouth to an unconscious person. Rinse mouth with water. If conscious, give victim small quantities of water to drink. Stop if the exposed person feels sick, as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter lungs. Chemical burns must be treated promptly by a physician. If unconscious, place in a recovery position and get medical attention immediately. Maintain an open airway on the victim.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Use dry chemical, CO2, water fog, or foam.
Unsuitable Extinguishing Media	DO NOT USE HIGH PRESSURE WATER STREAM as this may spread burning material. Runoff to sewer may create fire or explosion hazard.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides
Fire fighting instructions	Water runoff can cause environmental damage. Dike and collect water used to fight fire.
Flammable Properties	Combustible Liquid. Can form explosive mixtures at temperatures at or above the flashpoint.
Fire fighting instructions	Containers can build up pressure if exposed to heat (fire).
Special exposure hazards	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk without suitable training.

Fire fighting instructions	Fire fighters should wear full-face, self contained breathing apparatus and impervious protective clothing.

Section 6. Accidental Release Measures

Special exposure hazards	Promptly isolate the scene by removing all persons from the vicinity of the incident. No action shall be taken involving any personal risk without suitable training. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.
Containment	If possible without risk, stop leak/shut off source of spill. Remove containers from spill area. Do not touch or walk through spilled material. Dike area to contain spill.
Personal precautions	Avoid breathing vapors.
Clean-up	Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Contaminated absorbent material may pose the same hazard as the spilled product.
Environmental precautions	Avoid dispersal of spilled material in runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Section 7. Handling and Storage

Handling	Wear appropriate personal protective equipment (see section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin or clothing. Do not breathe (dust, vapor, mist, gas). Do not ingest. Do not enter storage area unless adequately ventilated. Use only in a well-ventilated area. Wear appropriate respirator when ventilation is inadequate. Use spark-proof tools and explosion-proof equipment. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of. Eating, drinking, and smoking should be prohibited in areas where material is handled, stored, and processed. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.
Storage	Store in original container or an approved alternative made from a compatible material, keep tightly closed when not in use. Keep from freezing. Store between the following temperatures: 2 to 40° C. (35.6 to 104°F).
Engineering controls	Use explosion-proof ventilation equipment.

Storage	Store in original container protected from direct sunlight in a dry, cool, and well ventilated area, away from incompatible materials and food and drink.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits

Ingredient Name	ACGIH TLV	OSHA PEL	STEL
polydimethylsiloxane copolymer	N/A	N/A	N/A
fatty acid ester	N/A	N/A	N/A
1,3-Propanediamine, N,N-dimethyl-	N/A	N/A	N/A
Benzoic acid, 2-hydroxy-	N/A	N/A	N/A
1,6-Hexanediamine	N/A	N/A	N/A
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-	N/A	N/A	N/A
1,3-Benzenedimethanamine	C: 0.1mg/m3 absorbed through skin	N/A	N/A
Phenol, 4,4'-(1-methylethylidene)bis-	N/A	N/A	N/A
1,2-Cyclohexanediamine	N/A	N/A	N/A
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine	N/A	N/A	N/A
aliphatic amines	N/A	N/A	N/A
Phenol, 2,4,6-tris[(dimethylamino)methyl]-	N/A	N/A	N/A
Benzenemethanol	N/A	N/A	N/A
1,2-Cyclohexanediamine	N/A	N/A	N/A
1,2-Ethanediamine, N-(2-aminoethyl)-	USA, 2/2010) Absorbed through skin. TWA: 1 ppm 8 hour(s) TWA: 4.2 mg/m3 8 hour(s).	N/A	N/A

Personal Protective Equipment	Goggles, Gloves, Respirator, CHEMICAL GOGGLES
Engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. If this product contains ingredients with exposure limits, personal, workplace, atmosphere, or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Eyewash and safety shower in close proximity to points of potential exposure. Food, beverages, and tobacco products should not be carried, stored, or consumed where this material is in use.
Body protection	Personal protective equipment for the body should be selected based upon the task being performed and the risks involved and should be approved by a specialist before handling this product.

Eye/Face	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gasses or dusts. If contact is possible, the following protection should be worn, unless assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Chemical resistant, impervious gloves complying with an improved standard should be worn at all times when handling chemical products if a risk assessment indicates that this is necessary. >8 hours (break through time): Ethyl Vinyl Alcohol Laminate EVAL, Butyl rubber.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based upon the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory Protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based upon known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	brown
Odor	Amine-like
Odor Threshold	Not available
Solubility	Partially soulble
Partition coefficient Water/n-octanol	Not available
VOC%	N/A
Viscosity	4,000 cps
Specific Gravity	1.03
Density lbs/Gal	1.03
Pounds per Cubic Foot	N/A
Flash Point	200 F (93.3C)
FP Method	calculated
pH	11
Melting Point	Not available
Boiling Point	Not available
Boiling Range	Not available
LEL	N/A
UEL	N/A

Evaporation Rate	Not available
Flammability	Not available
Decomposition Temperature	Not available
Auto-ignition Temperature	Not available
Vapor Pressure	Not available
Vapor Density	Not available

Section 10. Stability and Reactivity

Stability	Stable at normal temperature and pressure.
Conditions to avoid	Avoid flame and other ignition sources. Avoid contact with strong oxidizing agents,acids, heat, spark, and flame.
Decomposition	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous decomposition products	Thermal decomposition may produce smoke (possibly toxic), carbon monoxide, carbon dioxide, nitrogen oxides, aldehydes and other products of incomplete combustion. Phenolics.

Section 11. Toxicological Information

Routes of exposure	Skin, Inhalation, Eye, Ingestion.
ACUTE TOXICITY	
IRRITATION/CORROSION	
Skin	Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine - Irritating to the skin. Benzyl Alcohol - No known significant effects or critical hazards. Isophorone diamine - Corrosive to the skin. Metaxylenediamine - Corrosive to the skin. Bisphenol A - Non-irritating to the skin. 3-aminopropyldimethylamine - Corrosive to the skin. 2,4,6-tris(dimethylaminomethyl)phenol - Corrosive to the skin. Salicylic acid - Non-irritating to the skin. 1,2-diaminocyclohexane - Corrosive to the skin. Diethylenetriamine - Corrosive to the skin. hexamethylenediamine - Corrosive to the skin.
Eyes	Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine - Irritating to eyes. Benzyl Alcohol - Irritating to eyes. Isophorone diamine - Corrosive to eyes. Metaxylenediamine - No additional information. Bisphenol A - Severely irritating to the eyes. 3-aminopropyldimethylamine - No additional information. 2,4,6-tris(dimethylaminomethyl)phenol - Corrosive to the eyes. Salicylic acid - Severely irritating to the eyes. 1,2-diaminocyclohexane - Corrosive to the eyes. Diethylenetriamine - Corrosive to the eyes. hexamethylenediamine - Corrosive to the eyes.

Respiratory	Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine - No additional information. Benzyl Alcohol - No known significant effects or critical hazards. Isophorone diamine - No additional information. Metaxylenediamine - No additional information. Bisphenol A - No additional information. 3-aminopropyldimethylamine - No additional information. 2,4,6-tris(dimethylaminomethyl)phenol - No known significant effects or critical hazards. Salicylic acid - No additional information. 1,2-diaminocyclohexane - No known significant effects or critical hazards. Diethylenetriamine - No known significant effects or critical hazards. hexamethylenediamine - No known significant effects or critical hazards.
SENSITIZATION & MUTAGENICITY	Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glycidyl tolyl ether and triethylenetetramine - Not mutagenic in a standard battery of genetic toxicological tests. Benzyl Alcohol - Not mutagenic in a standard battery of genetic toxicological tests. Isophorone diamine - Not mutagenic in a standard battery of genetic toxicological tests. Metaxylenediamine - Not mutagenic in a standard battery of genetic toxicological tests. Bisphenol A - Not mutagenic in a standard battery of genetic toxicological tests. 3-aminopropyldimethylamine - Not mutagenic in a standard battery of genetic toxicological tests. 2,4,6-tris(dimethylaminomethyl)phenol - Not mutagenic in a standard battery of genetic toxicological tests. Salicylic acid - Not mutagenic in a standard battery of genetic toxicological tests. 1,2-diaminocyclohexane - The weight of the scientific evidence indicates that this material is non-genotoxic. Diethylenetriamine - Not mutagenic in a standard battery of genetic toxicological tests hexamethylenediamine - No mutagenetic effect.
CARCINOGENICITY	3-aminopropyldimethylamine - In accordance with column 2 of annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted. Hexamethylenediamine - In accordance with column 2 of annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.
REPRODUCTIVE TOXICITY	
Reproductive toxicity	1,2-diaminocyclohexane - No known significant effects or critical hazards. Hexamethylenediamine - No known significant effects or critical hazards.
TERATOGENICITY	hexamethylenediamine - No known significant effects or critical hazards. Salicylic acid - No known significant effects or critical hazards.
Specific target organ toxicity (single exposure)	4,4'-isopropylidenediphenol - Category 3, Route of exposure Not applicable, Target organs - Respiratory tract irritation

Specific target organ toxicity (repeated exposure)	2,4,6-tris(dimethylaminomethyl)phenol - Category 2, Route of exposure Not determined, Target organs - brain
Aspiration hazard	No data
POTENTIAL ACUTE EFFECTS	
Eye contact	Corrosive to eyes. Causes burns.
Inhalation	May be toxic by inhalation. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition product will cause health hazard. Serious effects may be delayed following exposure. May cause central nervous system effects such as headache, nausea, dizziness, confusion, and/or breathing difficulties. May cause nose, throat, and lung irritation.
Skin contact	Causes severe burns. Corrosive to the skin. May cause an allergic skin reaction. May cause sensitization by skin contact. If absorbed through skin, may cause central nervous system effects such as headache, nausea, dizziness, confusion, and/or breathing difficulties. Symptoms of overexposure may be headache, nausea, dizziness, tiredness, and/or vomiting.
Ingestion	May cause burns to mouth, throat and stomach. Harmful if swallowed.
SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL, AND TOXICOLOGICAL CHARACTERISTICS	
Symptoms, eye contact, physcial, chemical and toxicological	Adverse symptoms may include the following: Pain Watering Redness
Symptoms, inhalation, physcial, chemical and toxicological	Adverse inhalation symptoms may include the following: Reduced fetal weight Increase in fetal deaths Skeletal malformations
Symptoms, skin contact, physcial, chemical and toxicological	Adverse symptoms from skin contact may include the following: Pain or irritation Redness Blistering may occur Reduced fetal weight Increase in fetal deaths Skeletal malformations
Symptoms, ingestion, physcial, chemical and toxicological	Adverse symptoms may include the following: Stomach pains Reduced fetal weight Increase in fetal deaths Skeletal malformations
POTENTIAL CHRONIC EFFECTS	
Potential Chonic effects, general	Contains a material that may cause target organ damage, based upon animal data. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Repeated and/or prolonged exposures to low concentrations of vapors and/or aerosols may cause sore throat, neurological disorders, eye disease, asthma, skin

	disorders, and allergies.
Potential Chonic effects, Target organs	Contains material which causes damage to the following organs: upper respiratory tract. Contains a material which may cause damage to the following organs: kidneys, liver, central nervous system (CNS).
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	Contains materials that may cause central nervous system depression. Possible liver irregularities - based upon human evidence.
Teratogenicity	May damage the unborn child.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	Suspected of damaging fertility.
TEST RESULTS/DATA	
Acute Toxicity Toxicological Data	
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glyc	Test - OECD 402 Acute Dermal Toxicity, Endoint - LD50 Dermal, Species - Rat -Male, Female, Result >2000 mg/kg. Test - OECD 423 Acute Oral Toxicity - Acute Toxic Class Method, Endoint - LD50 Oral, Species - Rat - Female, Result >2000 mg/kg.
Benzyl Alcohol	Test - OECD 403 Acute Inhalation Toxicity, Endoint - LC50 Inhalation Dusts & mists, Species - Rat -Male, Female, Result >4178 mg/m3. Test - OECD 401 Acute Oral Toxicity, Endoint - LD50 Oral, Species - Rat -Male, Result >1620 mg/kg.
Isophorone diamine	Test - OECD 401 Acute Oral Toxicity, Endoint - LD50 Oral, Species - Rat -Male, Result >1030 mg/kg.
Metaxylenediamine	Test - OECD 403 Acute Inhalation Toxicity, Endoint - LC50 Inhalation Dusts & mists, Species - Rat -Male, Female, Result 1.34 mg/l Test - No official guidelines Internal method, Endoint - LD50 Dermal, Species - Rat -Male, Female, Result >3100mg/kg. Test - OECD 401 Acute Oral Toxicity, Endoint - LD50 Oral, Species - Rat -Male, Result 930 mg/kg.
Bisphenol A	Test - Unknown guidelines, Endoint - LC50 Inhalation Dusts & mists, Species - Rat -Male, Female, Result > 170 mg/m3. Test - Unknown guidelines, Endoint - LD50 Dermal Species - Rabbit -Male, Result 6400 mg/kg. Test - OECD 401 Acute Oral Toxicity, Endoint - LD50 Oral, Species - Rat -Male, Result 2000 to 5000 mg/kg.
3-aminopropyldimethylamine	Test - OECD 403 Acute Inhalation Toxicity, Endoint - LC50 Inhalation Vapor, Species - Rat -Male, Female, Result - 24.8 mg/l. Test - OECD 402 Acute Dermal Toxicity, Endoint - LD50 Dermal, Species - Rat, Result >1000mg/kg. Test - OECD 401 Acute Oral Toxicity, Endoint - LD50 Oral, Species - Rat -Male, Result - 410 mg/kg.
2,4,6-tris(dimethylaminomethyl)phenol	Test - Unknown guidelines, Endoint - LD50 Dermal, Species - Rat -Male, Result > 971 mg/kg. Test - OECD 401 Acute Oral Toxicity, Endoint - LD50 Oral, Species - Rat -Male, Result - 2169 mg/kg.
Salicylic acid	Test - OECD 402 Acute Dermal Toxicity, Endoint - LD50 Dermal, Species - Rat -Male, Female, Result >2000 mg/kg. Test - OECD 401 Acute Oral Toxicity, Endoint - LD50 Oral, Species - Rat, Result - 891 mg/kg.
1,2-diaminocyclohexane	Test - No official guidelines, Endpoint - LD50 Dermal Species - Rabbit -Male, Result > 7500 mg/kg. Test - No official guidelines, Endpoint - LD50 Oral Species - Rat -Male,

	Female, Result - 2300 mg/kg.
Diethylenetriamine	Test - OECD 403 Acute Inhalation Toxicity, Endoint - LC50 Inhalation Dusts & mists, Species - Rat -Male, Female, Result - 0.07 to 0.3 mg/L. Test - Unknown guidelines, Endoint - LD50 Dermal Species - Rabbit -Male, Result - 1090 mg/kg. Test - Unknown guidelines , Endoint - LD50 Oral, Species - Rat, Result - 1500 to 2000 mg/kg.
Hexamethylenediamine	Test - OECD 403 Acute Inhalation Toxicity, Endoint - LC50 Inhalation Vapor, Species - Rat -Male, Female, Result > 0.95 mg/l. Test - EU, Endoint - LD50 Dermal, Species - Rat -Male, Female, Result 1900 mg/kg.
IRRITATION/CORROSION DATA	
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glyc	Test - OECD Bovine Corneal Opacity and Permeability Test Method for Identifying Ocular Corrosives and Severe Irritants, Species - Mammal - species unspecified, Result - Eyes - Severe Irritant
Benzyl Alcohol	Test - OECD 404 Acute Dermal Irritation/Corrosion, Species - Rabbit, Result - Skin - Non-irritant. Test - OECD 405 Acute Eye Irritation/Corrosion, Species - Rabbit, Result - Eyes - Irritant.
Isophorone diamine	Test - No official guideline provided, Species - Rabbit, Result - Skin - Corrosive. Test - OECD 405 Acute Eye Irritation/Corrosion, Species - Rabbit, Result - Eyes - Corrosive.
Metaxylenediamine	Test - EU, Species - Rat, Result - Skin - Corrosive.
Bisphenol A	Test - OECD 404 Acute Dermal Irritation/Corrosion, Species - Rabbit, Result - Skin - Non-irritant. Test - OECD 405 Acute Eye Irritation/Corrosion, Species - Rabbit, Result - Eyes – Severe irritant.
3-aminopropyldimethylamine	Test - OECD 404 Acute Dermal Irritation/Corrosion, Species - Rabbit, Result - Skin - Corrosive.
2,4,6-tris(dimethylaminomethyl)phenol	Test - OECD 404 Acute Dermal Irritation/Corrosion, Species - Rabbit, Result - Skin - Corrosive. Test - EPA CFR, Species - Rabbit, Result - Eyes - Corrosive.
Salicylic acid	Test - OECD 404 Acute Dermal Irritation/Corrosion, Species - Rabbit, Result - Skin - Non-irritant. Test - Not Provided, Species - Rabbit, Result - Eyes - Severe irritant.
1,2-diaminocyclohexane	Test - Guidelines not provided, Species - Rabbit, Result - Skin - Corrosive Test - Guidelines not provided, Species - Rabbit, Result - Eyes - Corrosive
Diethylenetriamine	Test - Guidelines not provided, Species - Rabbit, Result - Skin - Corrosive Test - Guidelines not provided, Species - Rabbit, Result - Eyes - Corrosive
hexamethylenediamine	OECD 435 /In vitro Membrane Barrier Test Method for Skin Corrosion, Human skin model, Skin -Corrosive EU, Rabbit, Eyes -Corrosive
SENSITIZATION TEST DATA	
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glic	Test - Guidelines not provided, Route of exposure - Skin, Species - Mouse, Result - Sensitizing

Benzyl Alcohol	Test - Guidelines not provided, Route of exposure - Skin, Species - Guinea pig, Result - Not sensitizing
Isophorone diamine	Test - Guidelines not provided, Route of exposure - Skin, Species - Guinea pig, Result - Sensitizing
Metaxylenediamine	Test - Guidelines not provided, Route of exposure - Skin, Species - Mouse, Result - Sensitizing
Bisphenol A	Test - Guidelines not provided, Route of exposure - Skin, Species - Mouse, Result - Not sensitizing Test - Guidelines not provided, Route of exposure - Skin, Species - Human, Result - Sensitizing
3-aminopropyldimethylamine	Test - Guidelines not provided, Route of exposure - Skin, Species - Guinea pig, Result - Sensitizing
2,4,6-tris(dimethylaminomethyl)phenol	Test - Guidelines not provided, Route of exposure - Skin, Species - Guinea pig, Result - Not sensitizing Test - OECD 406 Skin Sensitization, Route of exposure - Skin, Species - Guinea pig, Result - Sensitizing
Salicylic acid	Test - Guidelines not provided, Route of exposure - Skin, Species - Mouse, Result - Not sensitizing
Aradur 450 S/ BD	Test - Guidelines not provided, Route of exposure - Skin, Species - Guinea pig, Result - Sensitizing
1,2-diaminocyclohexane	Test - Guidelines not provided, Route of exposure - Skin, Species - Guinea pig, Result - Sensitizing
Diethylenetriamine	Test - Guidelines not provided, Route of exposure - Skin, Species - Guinea pig, Result - Sensitizing
Hexamethylenediamine	Test - Guidelines not provided, Route of exposure - Skin, Species - Guinea pig, Result - Not sensitizing
MUTAGENICITY TEST DATA	
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glyc	Test - Experiment: In Vitro, Subject: Bacteria, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Animal, Metabolic activation: +/-, Result - Negative
Benzyl Alcohol	Test - Experiment: In Vivo, Subject: Mammalian-Animal, Result - Negative
Metaxylenediamine	Test - Experiment: In Vitro, Subject: Bacteria, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Animal, Cell: Somatic Metabolic activation: +/-, Result - Negative Test - Experiment: In Vivo, Subject: Mammalian-Animal, Result - Negative
Bisphenol A	Test - Experiment: In Vitro, Subject: Bacteria/yeast, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vivo, Subject: Mammalian-Animal, Result - Negative
3-aminopropyldimethylamine	Test - Experiment: In Vitro, Subject: Bacteria, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Animal, Cell: Somatic Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Human, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vivo, Subject: Mammalian-Animal, Result - Negative
2,4,6-tris(dimethylaminomethyl)phenol	Test - Experiment: In Vitro, Subject: Bacteria, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Animal, Cell: Somatic Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Human, Cell: Somatic

	Metabolic activation: +/-, Result - Negative
1,2-diaminocyclohexane	Test - Experiment: In Vitro, Subject: Bacteria, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Animal, Metabolic activation: +/-, Result - Negative
Diethylenetriamine	Test - Experiment: In Vitro, Subject: Mammalian-Animal, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Bacteria/yeast, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vivo, Subject: Insect, Cell: Germ, Result - Negative Test - Experiment: In Vivo, Subject: Mammalian-Animal, Cell: Somatic Metabolic activation: +/-, Result - Negative
Hexamethylenediamine	Test - Experiment: In Vitro, Subject: Mammalian-Animal, Cell: Somatic Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Animal, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Animal, Cell: Somatic, Result - Negative Test - Experiment: In Vitro, Subject: Mammalian-Animal, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vitro, Subject: Bacteria/yeast, Metabolic activation: +/-, Result - Negative Test - Experiment: In Vivo, Subject: Mammalian-Animal, Cell: Somatic, Result - Negative
CARCINOGENICITY TEST DATA	
Benzyl Alcohol	Test - OECD 453 Combined Chronic Toxicity/Carcinogenicity Studies, Species - Rat - Male, Female, Dose - 400 mg/kg, Exposure - 103 weeks; 5 days per week, Result/Result type - Negative - Oral - NOAEL
Bisphenol A	Test - Guidelines not provided, Species - Rat - Male, Female, Dose - Not provided, Exposure - 103 weeks; 7 days per week, Result/Result type - Negative - Oral - NOAEL
Salicylic acid	Test - Guidelines not provided, Species - Rat - Male, Female, Dose - 500 mg/kg, Exposure - 2 years; 7 days per week, Result/Result type - Negative - Oral - NOAEL
Diethylenetriamine	Test - Guidelines not provided, Species - Mouse - Male, Dose - 56.3 mg/kg, Exposure - 3 days per week, Result/Result type - Negative - Dermal - NOEL
REPRODUCTIVE TOXICITY DATA	
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glyc	Test; OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test, Species; Rat - Male, Female, Maternal toxicity; Negative, Fertility; Negative, Developmental effects; Negative
Metaxylenediamine	Test; OECD 421 Reproduction/Developmental Toxicity Screening Test, Species; Rat - Male, Female, Maternal toxicity; Positive, Fertility; Negative, Developmental effects; Negative
2,4,6-tris(dimethylaminomethyl)phenol	Test; OECD 422 Repeated Dose Toxicity Study with the Reproduction/Toxicity Screening Test, Species; Rat - Male, Female, Maternal toxicity; Negative, Fertility; Negative, Developmental effects; Negative Test; OECD 422 Repeated Dose Toxicity Study with the Reproduction/Toxicity Screening Test, Species; Rat - Male, Female,

	Maternal toxicity; Positive, Fertility; Negative, Developmental effects; Negative
3-aminopropyldimethylamine	Test; OECD 421 Reproduction/Developmental Toxicity Screening Test, Species; Rat - Male, Female, Maternal toxicity; Negative, Fertility; Negative, Developmental effects; Negative
Bisphenol A	Test; OECD 416 Two-Generation Reproduction Toxicity Study, Species; Rat - Male, Female, Maternal toxicity; Positive, Fertility; Negative, Developmental effects; Negative
Salicylic acid	Test; OECD 416 Two-Generation Reproduction Toxicity Study, Species; Rat - Male, Female, Maternal toxicity; Positive, Fertility; Negative, Developmental effects; Positive Test; OECD 416 Two-Generation Reproduction Toxicity Study, Species; Mouse, Maternal toxicity; Negative, Fertility; Negative, Developmental effects; Negative
1,2-diaminocyclohexane	Test; Not provided, Species; Rat - Male, Female, Maternal toxicity; Negative, Fertility; Negative, Developmental effects; Not provided
Hexamethylenediamine	Test; OECD 416 Two-Generation Reproduction Toxicity Study, Species; Rat - Male, Female, Maternal toxicity; Negative, Fertility; Negative, Developmental effects; Negative
TERATOGENICITY TEST DATA	
Benzyl Alcohol	Test; Not provided, Species; Mouse - Female, Result/Result type; Negative - Oral
Isophorone diamine	Test; OECD 414 Prenatal Developmental Toxicity Study, Species; Rat - Female, Result/Result type; Negative - Oral
Bisphenol A	Test; OECD 416 Two-Generation Reproduction Toxicity Study, Species; Rat - Female, Result/Result type; Negative - Oral
3-aminopropyldimethylamine	Test; OECD 421 Reproduction/Developmental Toxicity Screening Test, Species; Rat - Male, Female, Result/Result type; Negative - Oral
Salicylic acid	Test; OECD 414 Prenatal Developmental Toxicity Study, Species; Rabbit - Female, Result/Result type; Negative - Oral
Hexamethylenediamine	Test; OECD 414 Prenatal Developmental Toxicity Study, Species; Rat - Male, Female, Result/Result type; Negative - Oral
POTENTIAL CHRONIC HEALTH EFFECTS TEST DATA	
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glyc	Test; OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test, Endpoint; Sub-acute NOAEL Oral Species; Rat - Male, Female, Result; 1000 mg/kg/d
Benzyl Alcohol	Test; Not provided, Endpoint; Sub-chronic NOAEL Oral Species; Rat - Male, Female, Result; 400 mg/kg Test; OECD 412 Repeated Dose Inhalation Toxicity: 28-day or 14-day Study, Endpoint; Sub-chronic NOEC Inhalation Dusts and mists Species; Rat - Male, Female, Result; 1072 mg/m3
Isophorone diamine	Test; OECD 408 Repeated Dose 90-day Oral Toxicity Study in Rodents, Endpoint; Sub-chronic NOAEL Oral Species; Rat - Male, Female, Result; 60 mg/kg
Metaxylenediamine	Test; OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents, Endpoint; Sub-acute NOAEL Oral Species; Rat - Male, Female, Result; 150 mg/kg

Bisphenol A	Test; OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents, Endpoint; Sub-chronic LOAEL Oral Species; Rat - Male, Female, Result; 600 mg/kg Test; Test/Guidelines not provided, Endpoint; Sub-chronic NOEC Inhalation Dusts and mists Species; Rat - Male, Female, Result; 10 mg/m3
3-aminopropyldimethylamine	Test; OECD 407 Repeated Dose 28-day Oral Toxicity Study in Rodents, Endpoint; Sub-acute NOAEL Oral Species; Rat - Male, Female, Result; 50 mg/kg/d
2,4,6-tris(dimethylaminomethyl)phenol	Test; OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test, Endpoint; Sub-acute NOEL Oral Species; Rat - Male, Female, Result; 15 mg/kg
Salicylic acid	Test; Test/Guidelines Not provided, Endpoint; Chronic LOAEL Oral Species; Rat - Male, Female, Result; 250 mg/kg. Test; Test/Guidelines Not provided, Endpoint; Chronic LOAEL Oral Species; Dog - Male, Female, Result; 150 mg/kg/d Test; OECD 412 Repeated Dose Inhalation Toxicity: 28-day or 14-day Study, Endpoint; Sub-acute NOEC Inhalation Vapor Species; Rat - Female, Result; 700 mg/m3
1,2-diaminocyclohexane	Test; Test/Guidelines not provided, Endpoint; Sub-acute NOEC Inhalation Vapor Species; Rat, Result; 250 mg/m3 Test; Test/Guidelines not provided, Endpoint; Sub-chronic NOEL Oral Species; Rat – Male, Female, Result; 125 mg/kg
Diethylenetriamine	Test; Test/Guidelines not provided, Endpoint; Sub-chronic NOEL Oral Species; Rat - Male, Female, Result; 70 to 80 mg/kg/d Test; Test/Guidelines Not provided, Endpoint; Chronic NOAEL Dermal Species; Rat - Male, Female, Result; 114 mg/kg/d Test; Test/Guidelines not provided, Endpoint; Sub-acute NOEC Inhalation Vapor Species; Rat - Male, Female, Result; 550 mg/m3
hexamethylenediamine	Test: OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents, Endpoint: Sub-acute NOAEL Oral, Species: Mammal - species unspecified - Male, Female, Result: > 335 mg/Kg Test: OECD 413 Sub-chronic Inhalation Toxicity; 90-day Study, Endpoint: Sub-chronic NOEC Inhalation Dusts and Mists, Species: Rat - Male, Female, Result: 10 mg/m3
NUMERICAL MEASURES OF TOXICITY	
Acute toxicity estimates	Route; Oral, ATE Value: 2430.9 mg/kg Route; Dermal, ATE Value: 9324.2 mg/kg Route; Inhalation (dusts and mists), ATE Value: 19.14 mg/l

Section 12. Ecological Information

TOXICITY	
hexamethylenediamine	Aquatic half-life: - , Photolysis: - , Biodegradability: Readily
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glic	Test; OECD 209 Activated Sludge, Respiration Inhibition Test, Endpoint; Acute EC50, Exposure; 3 hours Species; Bacteria, Result; 157.6 mg/l
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glyc	Test; OECD 202 Daphnia sp Acute Immobilisation Test, Endpoint; Acute EC50, Exposure; 48 hours Static Species; Daphnia, Result; 0.705 mg/l

Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glic	Test; OECD 201 Alga, Growth Inhibition Test, Endpoint; Acute ErC50 (growth rate), Exposure; 72 hours Static, Species; Algae, Result; 0.186 mg/l
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glyc	Test; OECD 203 Fish, Acute Toxicity Test, Endpoint; Acute LC50, Exposure; 96 hours Static, Species; Fish, Result; 1.806 mg/l
Benzyl Alcohol	Test: OECD 202 Daphnia sp. Acute Immobilization Test, Endpoint: Acute EC50, Exposure: 48 hours, Species: Daphnia, Result: 230 mg/L Test: OECD 201 Alga, Growth Inhibition Test, Endpoint: Acute EgC50, Exposure: 72 hours Static, Species: Algae, Result: 770 mg/L Test: EPA OPPTS, Endpoint: Acute LC50, Exposure: 96 hours Static, Species: Fish, Result: 460 mg/L Test: OECD 201 Alga, Growth Inhibition Test, Endpoint: Chronic NOEC, Exposure: 72 hours Static, Species: Algae, Result: 310 mg/L Test: OECD 211 Daphnia Magna Reproduction Test, Endpoint: Chronic NOEC, Exposure: 21 days Semi-Static, Species: Daphnia, Result: 51 mg/L
Isophorone diamine	Test: Measured EU EC C.3 Algal Inhibition Test, Endpoint: Acute EC50, Exposure: 72 hours static, Species: Algae, Result: 37 mg/l Test: OECD 202 Daphnia sp. Acute Immobilisation Test, Endpoint: Acute EC50, Exposure: 48 hours Static, Species: Daphnia, Result: 23 mg/l Test: EU EC C.1 Acute Toxicity for Fish, Endpoint: Acute LC50, Exposure: 96 hours Semi-static, Species: Fish, Result: 110 mg/l
Metaxylenediamine	Test; OECD 209 Activated Sludge, Respiration Inhibition Test, Endpoint; Acute EC50, Exposure; 33 minutes static, Species; Bacteria, Result; >1000 mg/l Test: OECD 202 Daphnia sp. Acute Immobilisation Test, Endpoint: Acute EC50, Exposure: 48 hours Static, Species: Daphnia, Result: 15.2 mg/l Test: OECD 201 Alga, Growth Inhibition Test, Endpoint: Acute ErC50 (growth rate), Exposure: 72 hours Static, Species: Algae, Result: 32.1 mg/l Test: OECD 203 Fish, Acute Toxicity Test, Endpoint: Acute LC50, Exposure: 96 hours Semi-static, Species: Fish, Result: 87.6 mg/l Test: OECD 201 Alga, Growth Inhibition Test, Endpoint: Chronic NOECr, Exposure: 72 hours static, Species: Algae, Result: 22.9 mg/l Test: OECD 211 Daphnia, Reproduction Test, Endpoint: Chronic NOECr, Exposure: 21 days Semi-Static, Species: Daphnia, Result: 4.7 mg/l
Bisphenol A	Test: Not provided by supplier, Endpoint: Acute EC50, Exposure: 96 hours, Species: Algae, Result: 2.5 to 3.1 mg/l Test: Not provided by supplier, Endpoint: Acute EC50, Exposure: 48 hours, Species: Daphnia, Result: 3.9 to 10.2 mg/l Test: Not provided by supplier, Endpoint: Acute LC50, Exposure: 96 hours, Species: Fish, Result: 7.5 mg/l Test: EPA OPPTS, Endpoint: Chronic NOEC, Exposure: 444 days flow-through, Species: Fish, Result: 0.016 mg/l
3-aminopropyldimethylamine	Test: DIN DIN 38412 Part 8, Endpoint: Acute EC50, Exposure: 17 hours static, Species: Bacteria, Result: 95 mg/l Test: EU EC C.2 Acute Toxicity for Daphnia, Endpoint: Acute EC50, Exposure: 48 hours static, Species: Daphnia, Result: 59.5 mg/l Test: DIN, Endpoint: Acute EbC50 (biomass), Exposure: 72 hours static, Species: Algae, Result: 53.5 mg/l Test: DIN DIN 38412 Part 15, Endpoint: Acute LC50, Exposure: 96 hours static, Species: Fish, Result: 122 mg/l Test: DIN DIN 38412 Part 9, Endpoint: Chronic EbC10, Exposure: 72 hours static, Species: Algae, Result: 43 mg/l Test: DIN DIN 38412 Part 8, Endpoint: Chronic NOEC, Exposure: 17

	hours static, Species: Bacteria, Result: 94.5 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	Test: OECD 201 Alga, Growth Inhibition Test, Endpoint: Acute ErC50 (growth rate), Exposure: 72 hours Static, Species: Algae, Result: 84 mg/l Test: Unknown Guidelines, Endpoint: Acute LC50, Exposure: 96 hours Static, Species: Daphnia, Result: 718 mg/L Test: Not provided by supplier, Endpoint: Acute LC50, Exposure: 96 hours static, Species: Fish, Result: 175 mg/l Test: Not provided by supplier, Endpoint: Chronic NOEC, Exposure: 72 hours, Species: Algae, Result: 6.25 mg/l
Salicylic acid	Test: OECD 201 Alga, Growth Inhibition Test, Endpoint: Acute EC50, Exposure: 72 hours, Species: Algae, Result: >100 mg/l Test: ISO, Endpoint: Acute EC50, Exposure: 16 hours static, Species: Bacteria, Result: 380 mg/l Test: OECD 202 Daphnia sp. Acute Immobilisation Test, Endpoint: Acute EC50, Exposure: 48 hours Static, Species: Daphnia, Result: 870 mg/l Test: OECD 203 Fish, Acute Toxicity Test, Endpoint: Acute LC50, Exposure: 96 hours flow-through, Species: Fish, Result: 1370 mg/l Test: OECD OECD 202 Part II (Daphnia sp., reproduction test, Endpoint: Chronic NOEC, Exposure: 21 days, Species: Daphnia, Result: 10 mg/l
1,2-diaminocyclohexane	Test: Not provided by supplier, Endpoint: Acute EC50, Exposure: 72 hours, Species: Algae, Result: 29.6 mg/L Test: Not provided by supplier, Endpoint: Acute EC50, Exposure: 48 hours, Species: Daphnia, Result: 30.3 mg/L Test: DIN DIN 38412 Part 15, Endpoint: Acute LC50, Exposure: 48 hours, Species: Fish, Result: 200 mg/L
Diethylenetriamine	Test: Not provided by supplier, Endpoint: Acute EC50, Exposure: 48 hours, Species: Daphnia, Result: 17 mg/L Test: Not provided by supplier, Endpoint: Acute LC50, Exposure: 96 hours, Species: Fish, Result: 332 mg/L Test: Not provided by supplier, Endpoint: Chronic NOEC, Exposure: 21 days Semi-static, Species: Daphnia, Result: 5.6 mg/L
2,4,6-tris(dimethylaminomethyl)phenol	Test: OECD 201 Alga, Growth Inhibition Test, Endpoint: Acute EC50, Exposure: 72 hours Static, Species: Algae, Result: 84 mg/l
hexamethylenediamine	Test: OECD 202 Daphnia sp. Acute Immobilization Test, Endpoint: Acute EC50, Exposure: 48 hours Static, Species: Daphnia, Result: 17.9 to 21.9 mg/L Test: OECD 201 Alga, Growth Inhibition Test, Endpoint: Acute IC50, Exposure: 72 hours Static, Species: Algae, Result: >100 mg/L Test: OECD 203 Fish, Acute Toxicity Test, Endpoint: Acute LC50, Exposure: 96 hours Static, Species: Fish, Result: 1825 mg/L Test: No official guidelines, Endpoint: Chronic EC10, Exposure: 20 hours Static, Species: Bacteria, Result: 12500 mg/L
Benzyl Alcohol	Test: Not provided by supplier, Endpoint: LC50, Exposure: 96 hours, Species: Bluegill sunfish (Lepomis macrochrius), Result: 10 mg/l Test: Not provided by supplier, Endpoint: LC50, Exposure: 96 hours, Species: Fathead minnow (Pimephales promelas), Result: 460 mg/l Test: Not provided by supplier, Endpoint: IC50, Exposure: 72 hours, Species: Algae, Result: 700 mg/l Test: Not provided by supplier, Endpoint: EC50, Exposure: 24 hours, Species: Daphnia magna (water flea), Result: 55 mg/l
1,2-diaminocyclohexane Conclusion	Not toxic or harmful to aquatic organisms.

Benzyl Alcohol Conclusion	Not toxic or harmful to aquatic organisms.
Hexamethylenediamine Conclusion	Not toxic or harmful to aquatic organisms.
Salicylic acid Conclusion	Not toxic or harmful to aquatic organisms.
PERSISTENCE AND DEGRADABILITY	
1,2-diaminocyclohexane	Test: OECD 301D Ready Biodegradability - Closed Bottle Test, Period: 17 days, Result: 101 %
2,4,6-tris(dimethylaminomethyl)phenol	Test: OECD 301D Ready Biodegradability - Closed Bottle Test, Period: 28 days, Result: 4 %
3-aminopropyldimethylamine	Test: OECD 301D Ready Biodegradability - Closed Bottle Test, Period: 20 days, Result: 65 %
Benzyl Alcohol	Test: OECD 301A Ready Biodegradability - DOC Die-Away Test, Period: 21 days, Result: 95 to 97 % Test: OECD 301C Aerobic biochemical oxygen demand, Exposure: 7 days, Result: 92 to 96 % - Readily biodegradable Test: Biotic/Aerobic, Exposure: 28 days, Result: 92 to 96 % - Readily biodegradable
Bisphenol A	Test: Not provided by supplier, Period: 28 days, Result: 1 to 2 %
Diethylenetriamine	Test: Not provided by supplier SDS, Period: 28 days, Result: <60 %
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glic	Test: OECD 301D Ready Biodegradability - Closed Bottle Test, Period: 28 days, Result: 9 %
hexamethylenediamine	Test: OECD 301D Ready Biodegradability - Closed Bottle Test, Period: 28 days, Result: 82 %
Isophorone diamine	Test: EU EC C.4-A Biodegradation: - Determination of the "Ready" Biodegradability: Dissolved Organic Carbon (DOC) Die-Away Test, Period: 28 days, Result: 8 %
Metaxylenediamine	Test: OECD 301B Ready Biodegradability - CO2 Evolution Test, Period: 28 days, Result: 49 %
Salicylic acid	Test: OECD 301C Ready Biodegradability - Modified MITI Test (I), Period: 14 days, Result: 88.1 %
1,2-diaminocyclohexane Conclusion/Summary	Not toxic or harmful to aquatic organisms.
3-aminopropyldimethylamine Conclusion/Summary	Readily biodegradable
Benzyl Alcohol Conclusion/Summary	Not toxic or harmful to aquatic organisms.
Hexamethylenediamine Conclusion/Summary	Not toxic or harmful to aquatic organisms.
1,2-diaminocyclohexane	Aquatic half-life: - , Photolysis: - , Biodegradability: Readily
2,4,6-tris(dimethylaminomethyl)phenol	Aquatic half-life: - , Photolysis: - , Biodegradability: Not readily
3-aminopropyldimethylamine	Aquatic half-life: - , Photolysis: 50%; 0.14 day(s), Biodegradability: Readily
Benzyl Alcohol	Aquatic half-life: - , Photolysis: - , Biodegradability: Readily
Bisphenol A	Aquatic half-life: - , Photolysis: - , Biodegradability: Not readily
Fatty acids, tall-oil, reaction products with bisphenol A,	Aquatic half-life: - , Photolysis: - , Biodegradability: Not readily

epichlorohydrin, glyc	
Diethylenetriamine	Aquatic half-life: - , Photolysis: - , Biodegradability: Not readily
Isophorone diamine	Aquatic half-life: - , Photolysis: - , Biodegradability: Not readily
Metaxylenediamine	Aquatic half-life: - , Photolysis: - , Biodegradability: Not readily
Salicylic acid	Aquatic half-life: - , Photolysis: - , Biodegradability: Readily
BIOACCUMULATIVE POTENTIAL	
1,2-diaminocyclohexane	LogP ow: 0.09, BCF: 3.162, Potential: low
2,4,6-tris(dimethylaminomethyl)phenol	LogP ow: 0.219, BCF: - , Potential: low
3-aminopropyldimethylamine	LogPow: -0.352, BCF: - , Potential: low
Benzyl Alcohol	LogPow: 1.1, BCF: 1 , Potential: low
Diethylenetriamine	LogP ow: -1.3, BCF: - , Potential: low
Fatty acids, tall-oil, reaction products with bisphenol A, epichlorohydrin, glic	LogPow: 3.38, BCF: - , Potential: low
hexamethylenediamine	LogP ow: 0.02 to 0.35, BCF: - , Potential: low
Isophorone diamine	LogPow: 0.99, BCF: - , Potential: low
Metaxylenediamine	LogPow: 0.18, BCF: <0.3 , Potential: low
Salicylic acid	LogPow: 2.25, BCF: - , Potential: low

Section 13. Disposal

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be dispose of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld, or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14. Transport Information

UN Number	2735
UN Proper Shipping Name	Polyamines, liquid, corrosive, n.o.s. (Diaminocyclohexane, Diethylenetriamine, isophorone diamine, M-xlylene diamine) mixture, Marine pollutant
DOT Classification	8
Packing Group	II

DOT UN 2735	DOT Classification UN2735, Class 8, PG II, Label(s) Corrosive and Marine pollutant. The marine pollutant mark is not required when transported on inland waterways in sizes of less than or equal to 5 L or less than or equal to 5 kg or by road, rail, or inland air in non-bulk sizes.
IMDG UN 2735	IMDG Classification UN2735, Class 8, PG II, Label(s) Corrosive and Marine pollutant. The marine pollutant mark is not required when transported on inland waterways in sizes of less than or equal to 5 L or less than or equal to 5 kg. Emergency Schedules (EmS) F-A, S-B
IATA UN 2735	IATA Classification UN2735, Class 8, PG II, Label(s) Corrosive. The environmentally hazardous substance mark may appear of required by other transportation regulations. (e.g. destination country) Passenger and Cargo Aircraft Quantity limitation: 1 L Packaging instructions: 851 Cargo Aircraft Only Quantity limitation: 30 L Packaging instructions: 855

Section 15. Regulatory Information

HCS Classification	Toxic material Corosive material Sensitizing material Target organ effects
TSCA 8(b)	All components are listed or exempted.
TSCA 5(a)2 final SNUR	No ingredients listed.
TSCA 5(e) substance consent order	No ingredients listed.
TSCA 12(b) export notification	No ingredients listed.
SARA 302/304/311/312 extremely hazardous substances:	No products were found.
SARA 302/304 emergency planning and notification:	No products were found.
SARA 302/304/311/312 hazardous chemicals:	Diethylenetriamine
SARA 311/312 MSDS distribution -chemical inventory -hazard identification:	Diethylenetriamine: Immediate (acute) health hazard; Benzyl Alcohol: Immediate (acute) health hazard, Delayed (chronic) health hazard
SARA 313 Form R - Reporting requirements	Bisphenol A 2% Toluene 0.000176%

Section 16. Other Information

Revision Date 12/7/2015

While the information and recommendations in this publication are to the best of our knowledge, information and believed to be accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.
IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.
THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Safety Data Sheet

S-5101 Part C Carbon

Section 1. Identification

Product Identifier	S-5101 Part C Carbon
Synonyms	N/A
Manufacturer Stock Numbers	N/A
Recommended use	Filler and colorant for industrial coating systems. Inorganic source of carbon, filler, wear additive, thermal additive, graphite precursor, thermal insulation, tint/pigment, heat treatment, pressure and heat transfer materials.
Uses advised against	Not recommended as food or cosmetic additive.

Manufacturer Contact

Address

Summitville Tiles, Inc
PO BOX 73
Summitville , OHIO, 43962
USA

Phone	Emergency Phone	Fax
(330) 223-1511	(800) 424-9300 CHEMTREC	(330) 223-1414

Email

info@summitville.com

Section 2. Hazards Identification

Classification	N/A
Signal Word	
Pictogram	
Hazard Statements	N/A
Precautionary Statements	
Response	N/A
Prevention	N/A
Storage	N/A
Disposal	N/A
Ingredients of unknown toxicity	0%

Hazards not Otherwise Classified	No Data Available

Section 3. Ingredients

CAS	Ingredient Name	Weight %
64743-05-1	Coke, petroleum, calcined	99% - 99.9%

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

Ingestion	Calcined petroleum coke is not known to be toxic by ingestion. However, ingestion may cause digestive system blockage. Get medical attention immediately. Do not induce vomiting unless directed by medical personnel.
Skin	Wash with soap and water. Get medical attention if irritation develops or persists. Calcined petroleum coke is non-staining to skin.
Eye	Rinse with tepid water until eyes are clear of particulates. Seek medical attention if irritation persists.
Inhalation	Wear approved dust mask to avoid breathing dust. If exposed to excessive levels of dusts, remove to particulate free environment and get medical attention if cough or other symptoms develop.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Natural graphite is not flammable under normal conditions. Dry chemical, water sand, limestone powder. In case of intensely hot fire events, use sand to cover and isolate petroleum coke. At temperatures above 1000 C, calcined petroleum coke may react with any substances containing oxygen, including water and carbon dioxide.
Unsuitable Extinguishing Media	None known
	Calcined petroleum coke is a good conductor of electricity. Avoid contact between calcined petroleum coke and electrical circuitry.
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides SO2
Fire fighting instructions	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6. Accidental Release Measures

Clean-up	Clean up spills immediately, observing precautions in Protective Equipment

section. Calcined petroleum coke is inert and insoluble and will not pose any soluble ion hazards to the environment. However, good housekeeping practices should be followed and spilled material should be cleaned up, and disposed of in an appropriate manner.

Section 7. Handling and Storage

Calcined petroleum coke is a good conductor of electricity. Avoid contact between calcined petroleum coke and electrical circuitry. Avoid generation of dust and dust creating conditions. Keep powder and/or dust from contacting eyes.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	Coke, petroleum, calcined	N/A	N/A	N/A
Personal Protective Equipment	Goggles, Gloves, SAFETY GLASSES			
Eyes	Wear conventional safety glasses or goggles.			
Respiratory Protection	Respirator selection must be based upon known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.			
Engineering controls	Use adequate dust collection to maintain dust levels below the control or recommended values.			

Section 9. Physical and Chemical Properties

Physical State	solid, granular, or powder
Color	gray to black
Odor	None
Odor Threshold	None
Solubility	Insoluble
Partition coefficient Water/n-octanol	Not Applicable
VOC%	N/A
Viscosity	Not Applicable
Specific Gravity	1 2.08
Density lbs/Gal	N/A
Pounds per Cubic Foot	N/A
Flash Point	Not Applicable
FP Method	solid substance with 3652 C sublimatoin point
Ph	Not Applicable
Melting Point	3652 C sublimation
Boiling Point	Not Applicable

Boiling Range	Not Applicable
LEL	N/A
UEL	N/A
Evaporation Rate	Not Applicable
Flammability	Not Applicable
Decomposition Temperature	3652 C
Auto-ignition Temperature	above 500 C
Vapor Pressure	Not Applicable
Vapor Density	Not Applicable

Section 10. Stability and Reactivity

Chemical Stability	This product is stable.
Conditions to avoid	Avoid contact with strong oxidizing agents.
Incompatible	Incompatible with all oxidizing agents.
Hazardous Polymerization	No
Conditions to avoid	LEL and UEL values not available: Minimum Ignition Energy (MIE) greater than 10 joules. When exposed to extremely high energy ignition sources, very finely divided calcined petroleum coke powder can form explosive mixtures with air. Avoid contact between calcined petroleum coke dust clouds and high energy ignition sources. Classified as not flammable.

Section 11. Toxicological Information

Toxicological information about calcined petroleum coke is not available. Calcined petroleum coke is inert, insoluble and is not expected to present an ingestion hazard.

Section 12. Ecological Information

	Calcined petroleum coke is inert and insoluble. To the best of our knowledge, calcined petroleum coke should not present any environmental hazards.
Persistence and degradability	Calcined petroleum coke is a reduced form of carbon and will not degrade further under normal conditions. This form of carbon is stable, unreactive in water under ambient conditions, and is insoluble.
Bioaccumulative potential	There is no evidence indicating that calcined petroleum coke is bioaccumulative.
Aquatic ecotoxicity	Data not available.
Mobility in soil	Not determined, however calcined petroleum coke is not expected to have mobility in soil as it is an insoluble, inorganic substance.

Section 13. Disposal

Disposal should be in accordance with applicable regional, national and local laws and regulations. Packaging should be completely emptied of contents and disposed of in a manner specified by the recycler/regional disposal contractor.

Section 14. Transport Information

UN Number	N/A
UN Proper Shipping Name	Calcined Petroleum Coke
DOT Classification	Non Hazardous
Packing Group	NA
	Not a DOT hazardous material

Section 15. Regulatory Information

EEC EINECS	#265-210-9
TSCA STATUS	All ingredients in this mixture are in compliance with TSCA.
CANADA DSL	Yes
CANADA NDSL	No
Australia inventory (AICS)	Yes
Korea (KECL)	Yes
ASIA PAC	Yes
New Zealand Inventory of Chemicals (NZIoC)	Yes
REACH:	Petroleum coke is exempt from REACH registration.
RoHS	Petroleum coke is compliant with the EU RoHS directive.
WEEE:	Calcined petroleum coke is compliant with the EU waste electrical and electronic equipment directive

Section 16. Other Information

Revision Date	2/3/2016
	While the information and recommendations in this publication are to the best of our knowledge, information and believed to be accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE. IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE. THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST. Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.
Abbreviations	N.A. = Not Applicable or Not Available